

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strike through~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND the claims in accordance with the following:

1. (currently amended) A packet transmitting/receiving method for a computer system in which a plurality of packet transmitting/receiving units provided in correspondence to external modules are connected via a packet bus,

in which each of said packet transmitting/receiving units is constructed in such a manner that

when a packet received from said external module is to be transmitted, in the case where a transmitting request is issued to a transmission destination and a transmission permission is obtained, said packet is transmitted, and in the case where the transmission permission is not obtained, said ~~transmission~~ packet is stored in a buffer and said packet transmitting/receiving unit is set into a transfer waiting state, and

when the transmitting request ~~of the packet~~ is received from ~~a different~~ another packet transmitting/receiving unit, if said unit is in a packet receivable state, a response of the transmission permission is made and the packet is received, and if said packet transmitting/receiving unit is in a packet unreceivable state, the response of the transmission permission is inhibited,

~~wherein priorities are set in order of an internal register access packet, a response system packet, and a command system packet which are transmitted/received by said packet transmitting/receiving unit~~ with respect to the packet which is transmitted/received by said packet transmitting/receiving unit, whether a kind of packet is an internal register access packet, a response system packet, or a command system packet is discriminated, if said packet kind is determined to be said internal register access packet, said packet is stored into a first packet buffer in which a first priority has been set, if said packet kind is determined to be said response system packet, said packet is stored into a second packet buffer in which a second priority has been set, and further, if said packet kind is determined to be said command system packet, said packet is stored into a third packet buffer in which a third priority has been set, and

in the transfer waiting state ~~of said where the~~ command system packet of the low priority

to a certain transmission destination has been stored in said third packet buffer, in the case where the response system packet ~~of the high priority~~ to another transmission destination is received from ~~the said external module and stored in~~, said second packet buffer, said packet transmitting/receiving unit ~~removes~~withdraws said the transfer waiting state of the command system packet of a low priority stored in said third packet buffer and transmits the response system packet of the high priority stored in said second packet buffer.

2. (currently amended) A packet transmitting/receiving method for a computer system in which a plurality of packet transmitting/receiving units provided in correspondence to external modules are connected via a packet bus,

in which each of said packet transmitting/receiving units is constructed in such a manner that

when a packet received from said external module is transmitted, in the case where a transmitting request is issued and a transmission permission is obtained from a destination of ~~said~~ transmission, said packet is transmitted, and in the case where the transmission permission is not obtained, said ~~transmission~~ packet is stored in a buffer and said unit is set into a transfer waiting state, and

when the transmitting request of the packet is received from another packet transmitting/receiving unit, if said unit is in a packet receivable state, a response of the transmission permission is made and the packet is received, and if said unit is in a packet unreceivable state, the response of the transmission permission is inhibited,

~~wherein priorities are set in order of an internal register access packet, a response system packet, and a command system packet which are transmitted/received by said packet transmitting/receiving unit~~ with respect to the packet which is transmitted/received by said packet transmitting/receiving unit, whether a kind of packet is an internal register access packet, a response system packet, or a command system packet is discriminated, if said packet kind is determined to be said internal register access packet, said packet is stored into a first packet buffer in which a first priority has been set, if said packet kind is determined to be said response system packet, said packet is stored into a second packet buffer in which a second priority has been set, and further, if said packet kind is determined to be said command system packet, said packet is stored into a third packet buffer in which a third priority has been set,

in the transfer waiting state ~~of said where the~~ command system packet of the low priority to a certain transmission destination has been stored in said third packet buffer, in the case where the internal register access packet ~~of the highest priority~~ to the same transmission

destination is received from ~~the said external module and stored in;~~ said second packet buffer, said packet transmitting/receiving unit removes/withdraws said the transfer waiting state of the command system packet of the low priority stored in said third packet buffer and transmits the internal register access-response system packet of the highest-high priority stored in said second packet buffer, and

in a response inhibiting state of the transmission permission caused by an error of the external module, in the case where the transmitting request of the internal register access packet of the highest priority is received, said packet transmitting/receiving unit on the transmission destination side makes a response of the transmission permission, receives the internal register access packet, and returns an error detail information packet showing an error state of the external module.

3. (currently amended) A method according to claim 2, wherein in the response inhibiting state of the transmission permission caused by the error of the external module, after the packet transmitting request is received, in the case where said packet transmitting request is withdrawn and the withdrawn packet transmitting request is subsequently again issued, said packet transmitting/receiving unit ~~on said transmission-destination side~~ determines that said request is the transmitting request of said internal register access packet of the highest priority and makes a response of the transmission permission.

4. (currently amended) A packet transmitting/receiving method in which a plurality of packet transmitting/receiving units provided in correspondence to external modules are connected via a packet bus,

in which each of said packet transmitting/receiving units is constructed in such a manner that

when a packet received from said external module is transmitted, in the case where a transmitting request is issued and a transmission permission is obtained from a destination of said transmission, said packet is transmitted, and in the case where the transmission permission is not obtained, said ~~transmission~~ packet is stored in a buffer and said unit is set into a transfer waiting state, and

when the transmitting request of the packet is received from another packet transmitting/receiving unit, if said unit is in a packet receivable state, a response of the transmission permission is made and the packet is received, and if said unit is in a packet unreceivable state, the response of the transmission permission is inhibited,

wherein kinds of packets which are transmitted/received by said packet transmitting/receiving unit are discriminated and the packet is stored into the corresponding packet buffer among a plurality of packet buffers in which priorities are have been set in accordance with kinds of packets~~which are transmitted/received by said packet transmitting/receiving unit~~, and

in the transfer waiting state of the packet stored in the packet buffer of the low priority to a certain transmission destination, in the case where the packet ~~of the high priority~~ to another transmission destination is received from ~~the said~~ external module, and stored in the packet buffer of the high priority, said packet transmitting/receiving unit ~~removes~~withdraws said transfer waiting state of the packet stored in said packet buffer of the low priority and transmits the packet stored in said packet buffer of the high priority.

5. (currently amended) A packet transmitting/receiving method for a computer system in which a plurality of packet transmitting/receiving units provided in correspondence to external modules are connected via a packet bus,

in which each of said packet transmitting/receiving units is constructed in such a manner that

when a packet received from said external module is transmitted, in the case where a transmitting request is issued and a transmission permission is obtained from a destination ~~of said transmission~~, said packet is transmitted, and in the case where the transmission permission is not obtained, said ~~transmission~~ packet is stored in a buffer and said unit is set into a transfer waiting state, and

when the transmitting request of the packet is received from another packet transmitting/receiving unit, if said unit is in a packet receivable state, a response of the transmission permission is made and the packet is received, and if said unit is in a packet unreceivable state, the response of the transmission permission is inhibited,

wherein kinds of packets which are transmitted/received by said packet transmitting/receiving unit are discriminated and the packet is stored into the corresponding packet buffer among a plurality of packet buffers in which priorities are have been set in accordance with kinds of packets~~which are transmitted/received by said packet transmitting/receiving unit~~,

in the transfer waiting state of the packet stored in the packet buffer of the low priority to a certain transmission destination, in the case where the packet ~~of the highest priority to the same to another~~ transmission destination is received from the external module and stored in the

packet buffer of the high priority, said packet transmitting/receiving unit withdraws ~~said the~~ transfer waiting state of the packet stored in said packet buffer of the low priority and transmits the packet stored in said packet buffer of the highest-high priority, and

in a response inhibiting state of the transmission permission caused by an error of the external module, in the case where the transmitting request of the packet of the highest priority is received, said packet transmitting/receiving unit on the ~~transmission-destination side~~ makes a response of the transmission permission, receives the internal register access packet, and returns an error detail information packet showing an error state of the external module.

6. (currently amended) A method according to claim 5, wherein in the response inhibiting state of the transmission permission caused by the error of the external module, after the packet transmitting request is received, in the case where said packet transmitting request is withdrawn and the withdrawn packet transmitting request is subsequently again issued, said packet transmitting/receiving unit ~~at~~ on said ~~transmission-destination side~~ determines that the request is the transmitting request of the packet of the highest priority and makes a response of the transmission permission.

7. (currently amended) A packet transmitting/receiving apparatus for a computer system,

wherein a plurality of packet transmitting/receiving units provided in correspondence to external modules are connected via a packet bus, and each of said packet transmitting/receiving units comprises:

a packet transmitting function unit for, when a packet received from said external module is transmitted, in the case where a transmitting request is issued to a transmission destination and a transmission permission is obtained, transmitting said packet, and in the case where the transmission permission is not obtained, for storing said transmission packet into a buffer and setting said unit into a transfer waiting state; and

a packet receiving function unit for, when a transmitting request of the packet is received, making a response of the transmission permission in the case where said unit is in a packet receivable state, receiving the packet, and inhibiting the response of the transmission permission in the case where said unit is in a packet unreceivable state,

and further said packet transmitting function unit comprises:

a packet priority discriminating unit for discriminating ~~priorities determined in order of an~~ whether a kind of packet is an internal register access packet, a response system packet, and or

a command system packet with respect to the packet which are received from the external module and storing said packets into different buffers, if said packet kind is determined to be said internal register access packet, storing said packet into a first packet buffer in which a first priority has been set, if said packet kind is determined to be said response system packet, storing said packet into a second packet buffer in which a second priority has been set, and further, if said packet kind is determined to be said command system packet, storing said packet into a third packet buffer in which a third priority has been set; and

a packet transmitting request arbiter for, in the transfer waiting state of said where the command system packet of the low priority to a certain transmission destination has been stored in said third packet buffer, in the case where the response system packet of the high priority to another transmission destination is received from the said external module, and stored in said second packet buffer, withdrawing said the transfer waiting state of the command system packet of the low priority stored in said third packet buffer and transmitting the response system packet of the high priority stored in said second packet buffer.

8. (currently amended) A packet transmitting/receiving apparatus for a computer system,

wherein a plurality of packet transmitting/receiving units provided in correspondence to external modules are connected via a packet bus, and each of said packet transmitting/receiving units comprises:

a packet transmitting function unit for, when a packet received from said external module is transmitted, in the case where a transmitting request is issued and a transmission permission is obtained from a transmission destination, transmitting said packet, and in the case where the transmission permission is not obtained, for storing said transmission packet into a buffer and setting said unit into a transfer waiting state, and

a packet receiving function unit for, when a transmitting request is received from another packet transmitting/receiving unit, making a response of the transmission permission in the case where said unit is in a packet receivable state, receiving the packet, and stopping the response of the transmission permission in the case where said unit is in a packet unreceivable state,

and further said packet transmitting function unit comprises:

a transmission packet priority discriminating unit for discriminating priorities determined in order of whether a kind of packet is an internal register access packet, a response system packet, and a command system packet with respect to the packet received from the other external module, packet transmitting/receiving unit and storing said packets into different

if said packet kind is determined to be said internal register access packet, storing said packet into a first packet buffer in which a first priority has been set, if said packet kind is determined to be said response system packet, storing said packet into a second packet buffer in which a second priority has been set, and further, if said packet kind is determined to be said command system packet, storing said packet into a third packet buffer in which a third priority has been set; and

a packet transmitting request arbiter for, in the transfer waiting state ~~of where~~ the command system packet ~~of the low priority~~ to a certain transmission destination, has been stored in said third packet buffer, in the case where the internal register access response system packet of the highest priority to another transmission destination is received from the said external module and stored in said second packet buffer, withdrawing said the transfer waiting state of the command system packet of the low priority stored in said third packet buffer and transmitting the response system packet of the high priority stored in said second packet buffer, and

said packet receiving function unit comprises:

a reception packet priority discriminating unit for discriminating ~~the priorities determined in order of said whether~~ a kind of packet is the internal register access packet, the response system packet, and or the command system packet with respect to the packet received from the other ~~another~~ packet transmitting/receiving unit ~~and for storing said packets into the different buffers,~~ if said packet kind is determined to be said internal register access packet, storing said packet into the first packet buffer in which the first priority has been set, if said packet kind is determined to be said response system packet, storing said packet into the second packet buffer in which the second priority has been set, and further, if the packet kind is determined to be said command system packet, storing said packet into the third packet buffer in which the third priority has been set; and

a packet receiving request arbiter for, in a response inhibiting state of said transmission permission caused by an error of the external module, only in the case where the transmitting request of said internal register access packet of the highest priority is received, making a response of the transmission permission, receiving the internal register access packet, and returning error detail information packet showing an error state of the external module.

9. (currently amended) An apparatus according to claim 8, wherein in the response inhibiting state of said transmission permission caused by the error of the external module, after a packet transmitting request is received from the other transmitting/receiving module, in the

case where said packet transmitting request is withdrawn and the withdrawn packet transmitting request is subsequently again issued, said packet receiving request arbiter determines that said request is the transmitting request of said internal register access packet of the highest priority, and makes a response of the transmission permission.

10. (original) An apparatus according to claim 7, wherein said external module is a PCI bridge module for performing a conversion between a command on a PCI bus and the packet.

11. (original) An apparatus according to claim 10, wherein modules such as host, input/output devices, memory, and the like are connected to the PCI bus of said PCI bridge module through a PCI module.